



# **Necropsy program for the California Horse Racing Board Annual report 18-19**

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**University of California – Davis and CHRB**



**UC DAVIS**  
**VETERINARY MEDICINE**  
California Animal Health and  
Food Safety Laboratory System

# Equine Postmortem Program

Established in 1990 by a Legislative Mandate



**OAK TREE**  
RACING ASSOCIATION



**Necropsy required for horses that die  
on California racetracks under CHRB jurisdiction**

# **Program Goals**

- 1 Determine the nature of injuries occurring in racehorses**
- 2 Determine the reasons for these injuries**
- 3 Develop injury prevention strategies**

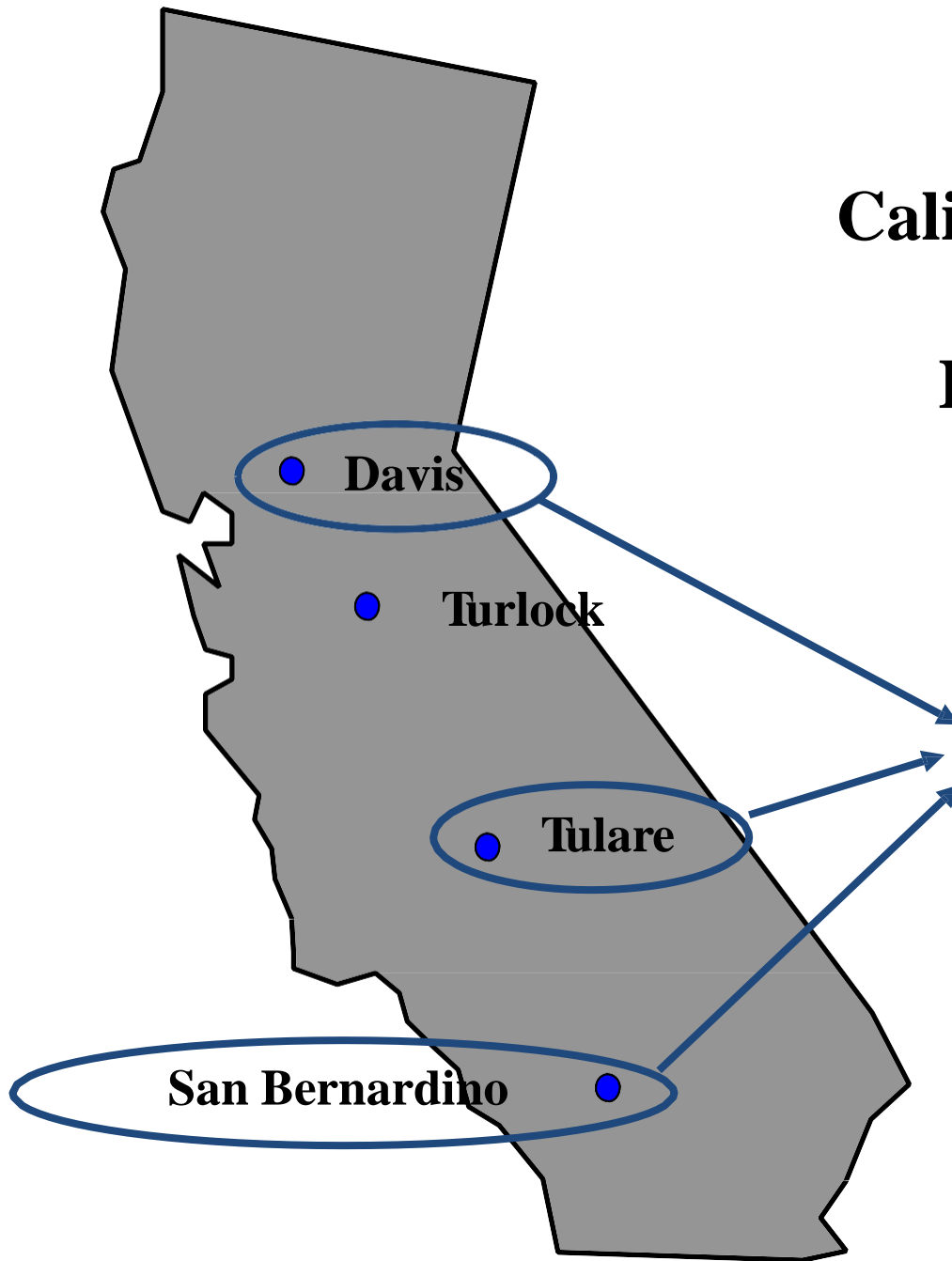
# **Three main actors:**

**1 Race tracks: haul dead animals to CAHFS labs**

**2 CAHFS labs: perform necropsies and produce reports**

**3-CHRB: pays for necropsies**

# California Animal Health & Food Safety Laboratory System



**Equine necropsies**

# Necropsy program:

- \* Started in February 1990**
- \* National model**
- \* 7,203 horses necropsied (as of 6-30-19)**

# Catastrophic fractures

- \* Most prevalent cause of death in race horses



- \* Great majority: pre-existent lesions





# Comprehensive work up

- \* **Full necropsy**
- \* **Legs: affected + contralateral**
- \* **Toxicology**
- \* **Other tests as required**

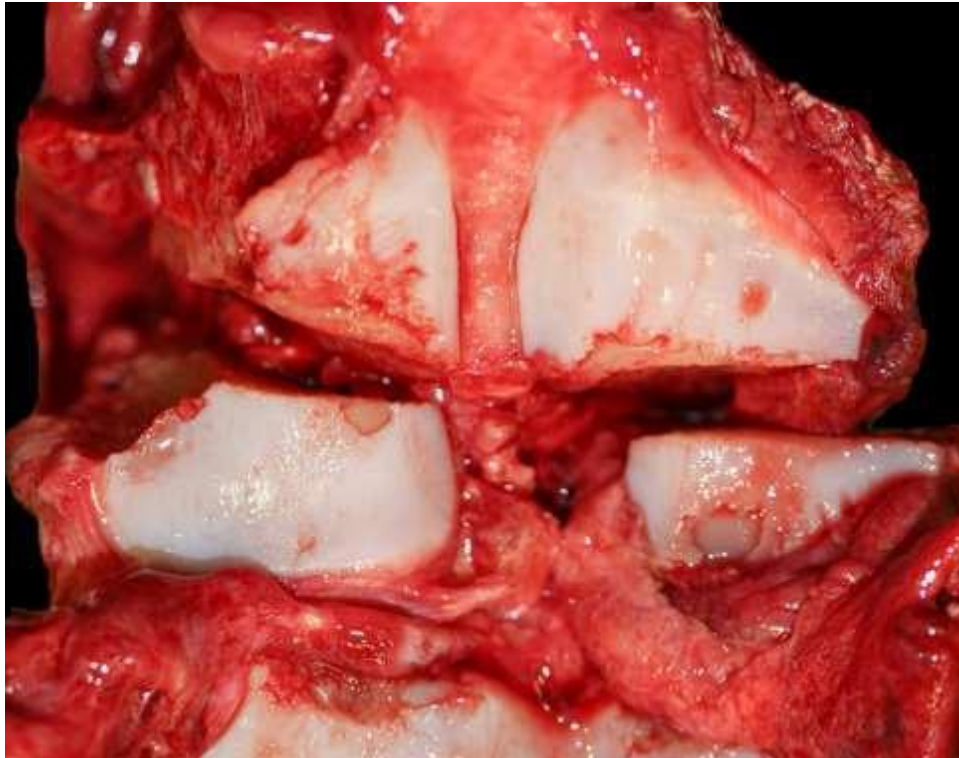
# **3 KEY STEPS**

1 Acute injury

2 Associated pre-existing lesions

3 DJD and chronic tendon/ligament injuries

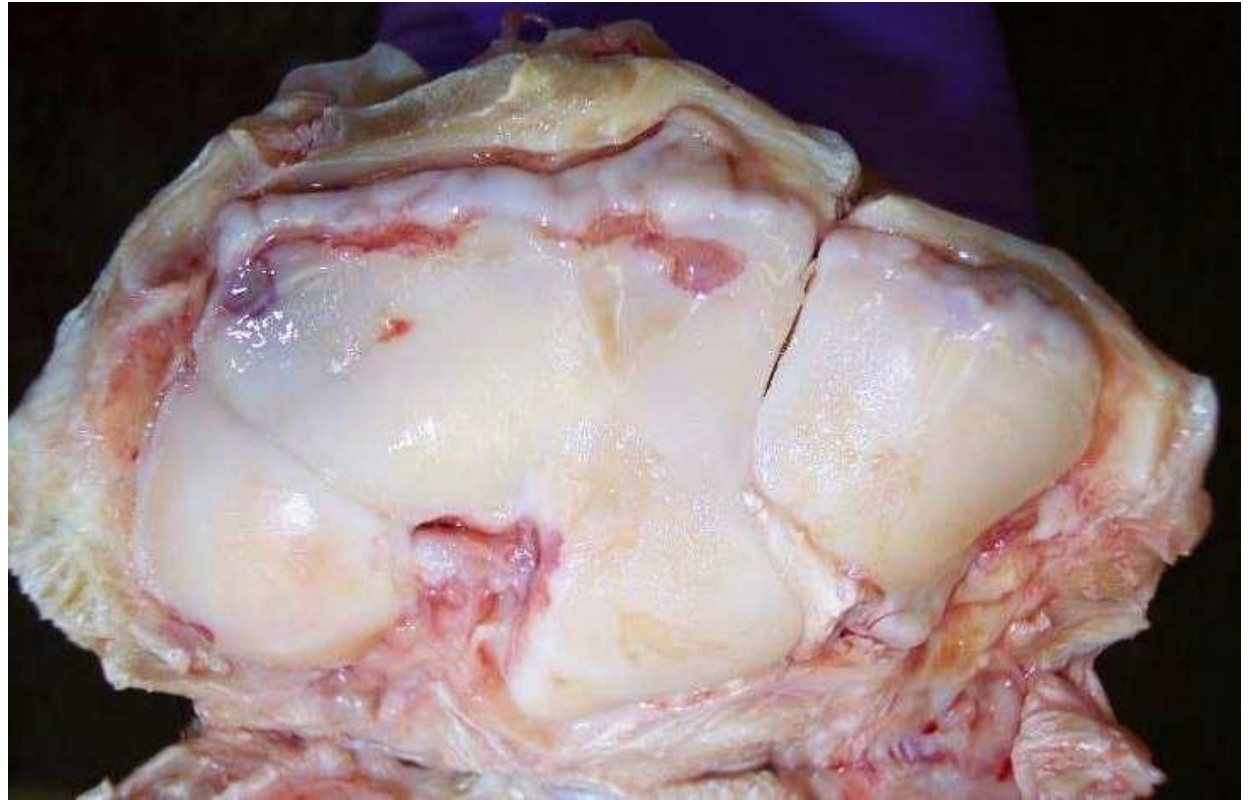
# 1-Acute injury



## 2-Associated pre-existing lesions

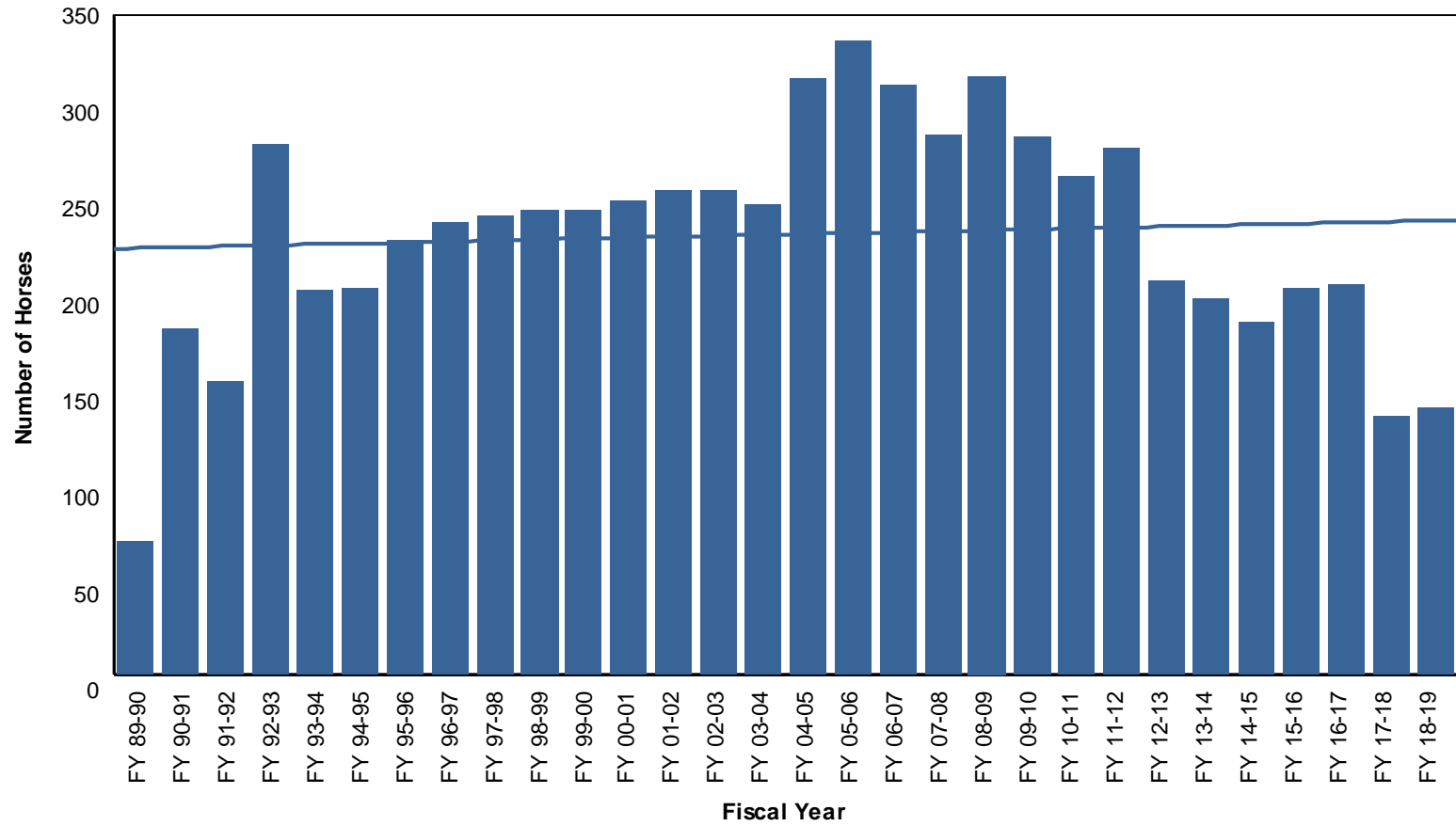


# 3-Chronic (long standing) injuries



# Horses submitted per year

All Breeds



# Submissions by breed

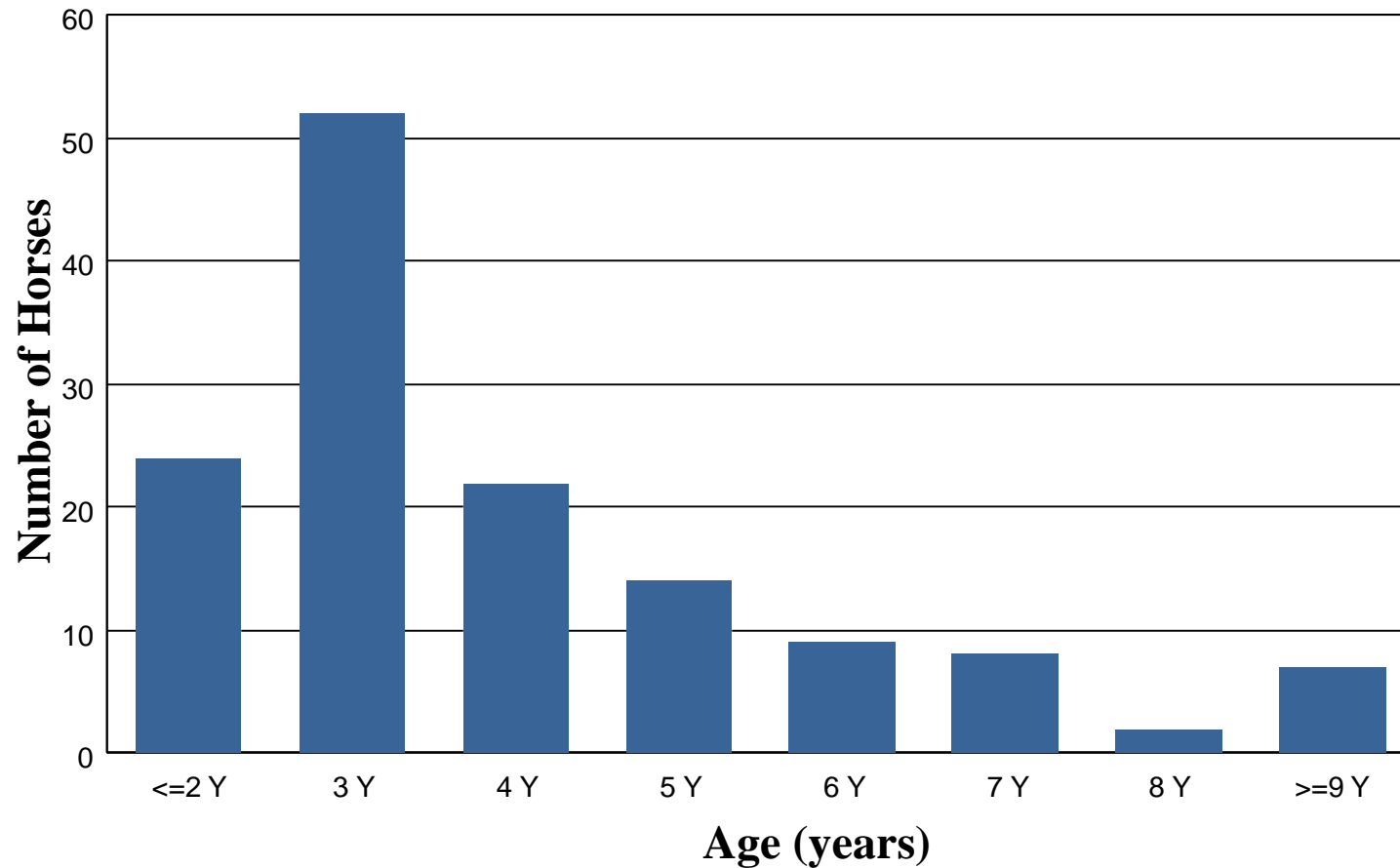
n=142

Breed	Non-Exercise	Race	Training	Total
Quarter Horse	4	14	0	18
Thoroughbred	28	39	57	124
Total	32	53	57	<b>142</b>



# Submissions by age

n=142



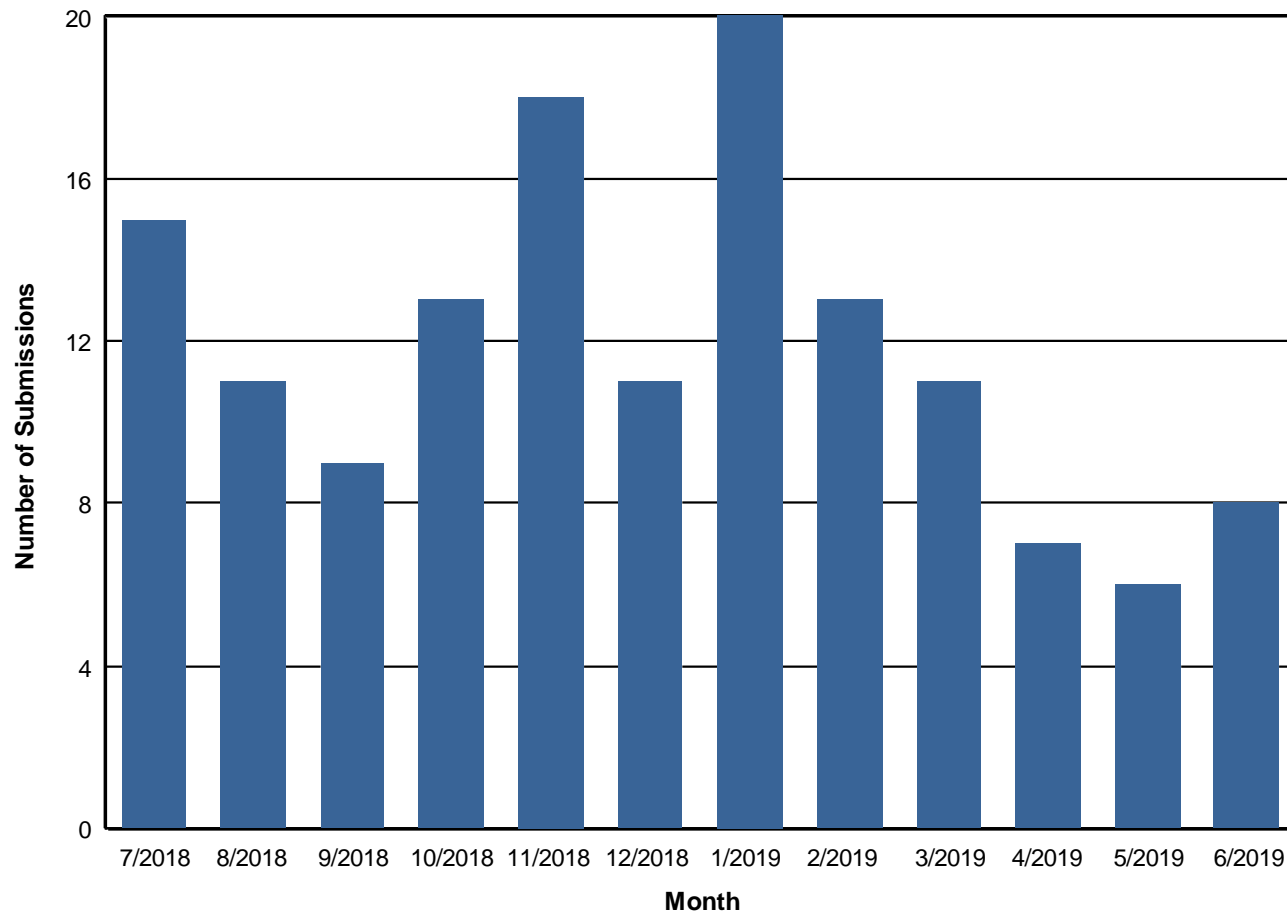
# Injury related activity

n=142

<b>Non-Exercise</b>	32 (23%)
<b>Race</b>	53 (37%)
<b>Training</b>	57 (40%)
<b>Total</b>	142 (100%)

# Total submissions by month

n=142



# Total submissions by gender

n= 142

Gender	Non-Exercise	Race	Training	Total
Female	13	25	19	57
Male	4	4	14	22
Gelding	15	24	24	63
Total	32	53	57	142

# Organ systems affected n=142

	GI	MS	Nerv	Resp	Inte	WB	Total
Quarter Horse	2	16	0	0	0	0	18
Thoroughbred	8	97	2	1	3	13	124
Total	10	113	2	1	3	13	142

(GI= Gastrointestinal; MS= Musculoskeletal; Nerv= Nervous; Resp= Respiratory; Inte= Integumentary; WB= Whole body)

# Musculoskeletal structures affected n=142

Structure affected	Non-Exercise	Race	Training	Total
Left front	2	19	23	44
Left rear	0	3	4	7
Right front	0	18	18	36
Right Rear	1	2	3	6
Pelvis	0	3	3	6
Skull	5	1	1	7
Vertebra	2	6	2	10
Various structures*	2	1	1	4
Total	12	53	55	120

\* Includes tenosynovitis and laminitis of more than one limb, and diaphragmatic rupture

# **THE number 1 lesson!!**

**~ 90% catastrophic fractures:**

**pre-existing lesions.....**

# Fellowship program

Initially: 2018-2021

**Extended: through 2022**

- \* Timely reports
- \* More efficient (budgetary-wise)
- \* Consistent documentation (photos) for fatality reviews and reporting
- \* Focused
- \* Help with outreach
- \* Collaboration with Dr Sue Stover streamlined
- \* Training next generation



Dr Monika Samol



# **Dr Monika Samol**

- \* DVM: University of Life Sciences in Lublin, Poland

- \* Training in Poland, Germany, Ireland, USA

- \* Strong interest in equine sport medicine and orthopedics

# OUTREACH-1:

- South Coast Research and Extension Center, University of California, Irvine, CA. June 15 2019.
- Meeting for Official CHRB racetrack veterinarians. Davis, CA. June 18 2019
- California Horse Racing Board Regulatory Veterinarians, Stewards, Investigators. Davis, CA. June 18 2019
- Veterinary Orthopedic Society, Breckenridge, CO. February 4 2019
- Tahoe Equine Conference, Incline Village, NV. January 28 2019
- Racing Regulatory Meeting. San Francisco, CA. November 30 2018
- Training considerations for injury prevention. Susan Stover. Moonee Valley Racecourse, Racing Victoria, Melbourne, Australia. November 19 2018
- Laurel Park Racetrack, Laurel, MD. November 6 2018
- American College of Veterinary Surgeons Surgical Summit, Phoenix, AZ. October 26 2018

## OUTREACH-2:

- Southern California Equine Foundation, Santa Anita Racetrack, Arcadia, CA. October 12 2018
- XI Argentine Meeting Of Veterinary Pathology and 12th Seminar of The C.L. Davis / S.W. Thompson Foundation in Argentina. La Plata, Argentina. August 2018
- Meeting for Official CHRB racetrack veterinarians. Davis, CA. June 18 2019
- Santa Anita Racetrack, Arcadia, CA. October 2019

# **SCIENTIFIC PUBLICATIONS**

**3 peer reviewed papers published in:**

- \* Frontiers of Veterinary Science**
- \* Equine Veterinary Journal**
- \* Acta Biomaterialia**

# RESEARCHERS AND COLLABORATORS:

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# SPONSORS

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- \* Pacific Coast Quarter Horse Racing Association

# Acknowledgements

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- **Ms Lucy Gomes (CAHFS Tulare)**
- **Dr Sue Stover (UCDavis)**
- **Dr Rick Arthur (CHRB)**
- **CAHFS pathologists, necropsy technicians and staff**
- **CHRB vets and staff**





THANK YOU!!!